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Inv: Takashi YAMADA, et al.

Preliminary Amendment

Amendments to the Claims:

Please amend the claims as follows:

Claims 1-28 (Canceled).

Claim 29 (New): A semiconductor chip comprising:

a base substrate;

a bulk device region having a bulk growth layer on a part of the base substrate, the

bulk device region having a first device-fabrication surface in which a bulk device is

positioned on the bulk growth layer;

a pn junction formed in the bulk device region and positioned above an interface

between the base substrate and the bulk growth layer;

an SOI device region having a buried insulator on the other part of the base substrate

and an SOI layer on the buried insulator, the SOI device region having a second device-

fabrication surface in which an SOI device is positioned on the SOI layer, the first and second

device-fabrication surface being positioned at a substantially uniform level;

a first isolation formed in the bulk device region so as to separate the bulk device, and

a second isolation in the SOI device region so as to separate the SOI device, the first and

second isolations being substantially the same depth and having a depth reaching the buried

insulator; and

a boundary layer located at a boundary between the bulk device region and the SOI

device region.

Claim 30 (New): The semiconductor chip according to claim 29, wherein the bulk

growth layer is a silicon bulk growth layer, and the boundary layer reaches the base substrate

and is made of one of polysilicon or silicon-based compound semiconductors.

Claim 31 (New): The semiconductor chip according to claim 29, further comprising a

third isolation positioned at the boundary and functioning at the boundary layer, wherein the

first, second, and third isolations are of substantially the same depth.

Claim 32 (New): The semiconductor chip according to claim 29, further comprising a

dummy trench in the bulk device region between the bulk device and the SOI device.

Claim 33 (New): The semiconductor chip according to claim 32, wherein the dummy

trench is deeper than the buried insulator.

Claim 34 (New): The semiconductor chip according to claim 32, wherein the bulk

device positioned in the bulk device region includes a DRAM cell having a trench capacitor,

and the dummy trench is a dummy capacitor.

Claim 35 (New): A semiconductor chip comprising:

a base substrate;

a bulk device region having a bulk growth layer on a part of the base substrate, the

bulk device region having a first device-fabrication surface in which a bulk device is

positioned on the bulk growth layer;

an SOI device region having a buried insulator on the other part of the base substrate

and an SOI layer on the buried insulator, the SOI device region having a second device-

fabrication surface in which an SOI device is positioned on the SOI layer, the first and second

device-fabrication surface being positioned at a substantially uniform level;

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a boundary layer located at a boundary between the bulk device region and the SOI

device region; and

a dummy trench formed in the bulk device region between the bulk device and the

SOI device.

Claim 36 (New): The semiconductor chip according to claim 35, wherein the dummy

trench is a dummy capacitor.

Claim 37 (New): The semiconductor chip according to claim 35, wherein the dummy

trench is deeper than the buried insulator.

Claim 38 (New): The semiconductor chip according to claim 35, wherein the bulk

device positioned in the bulk device region includes a vertical bipolar transistor having an

isolation trench, the isolation trench functioning as the dummy trench.

Claim 39 (New): The semiconductor chip according to claim 35, wherein the bulk

device positioned in the bulk device region includes a DRAM cell having a trench capacitor.

Claim 40 (New): The semiconductor chip according to claim 35, wherein the bulk

device positioned in the bulk device region includes a DRAM cell having a trench capacitor

and a MOSFET, wherein the MOSFET is positioned between the DRAM cell and the dummy

trench.

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Claim 41 (New): The semiconductor chip according to claim 35, wherein the bulk

growth layer is a silicon bulk growth layer, and the boundary layer reaches the base substrate

and is made of one of polysilicon or silicon-based compound semiconductors.

Claim 42 (New): The semiconductor chip according to claim 35, wherein the bulk

device region includes a first isolation separating the bulk device, and the SOI device region

includes a second isolation separating the SOI device, the first and second isolations being of

substantially the same depth.

Claim 43 (New): The semiconductor chip according to claim 42, wherein the first

and second isolations have a depth reaching the buried insulator.

Claim 44 (New): The semiconductor chip according to claim 43, wherein the bulk

device region has a pn junction positioned above an interface between the base substrate and

the bulk growth layer.

Claim 45 (New): The semiconductor chip according to claim 35, further comprising a

first isolation in the bulk device region, a second isolation in the SOI device region, and a

third isolation positioned at the boundary and functioning as the boundary layer, wherein the

first, second, and third isolations are of substantially the same depth.

Claim 46 (New): The semiconductor chip according to claim 45, wherein the first,

second, and third isolations are deeper than the buried insulator.

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Claim 47 (New): The semiconductor chip according to claim 46, wherein the third isolation has a sidewall that is in contact with the buried insulator.

Claim 48 (New): The semiconductor chip according to claim 35, further comprising a first isolation in the bulk device region, a second isolation in the SOI device region, and a third isolation positioned at the boundary and functioning as the boundary layer, wherein the second isolation is shallower than the third isolation.